

# **WSDOT Highway Project Prioritization Process**

**Paula J. Hammond, P.E.**  
Secretary

**David L. Dye**  
Deputy Secretary

**Steve Reinmuth**  
Chief of Staff

**Pat Morin**  
Manager, Systems Analysis and Priority Development

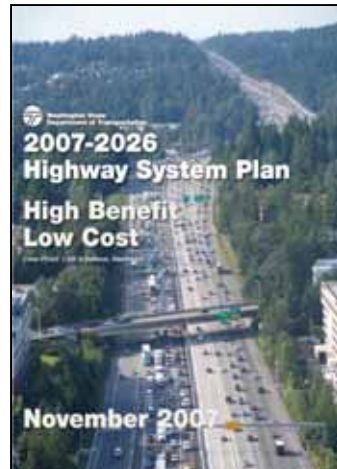
**Jay Alexander**  
Manager (acting), Program Development Office

**Washington State Transportation Commission**  
**February 17, 2009**

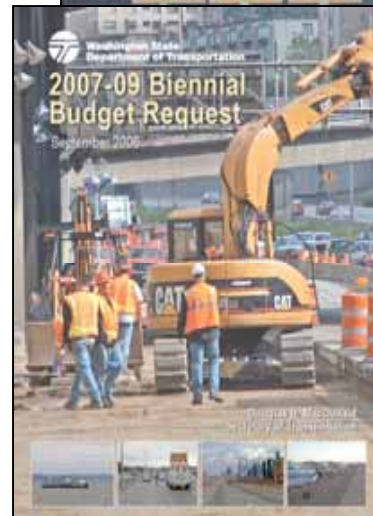


# Program Development Overview

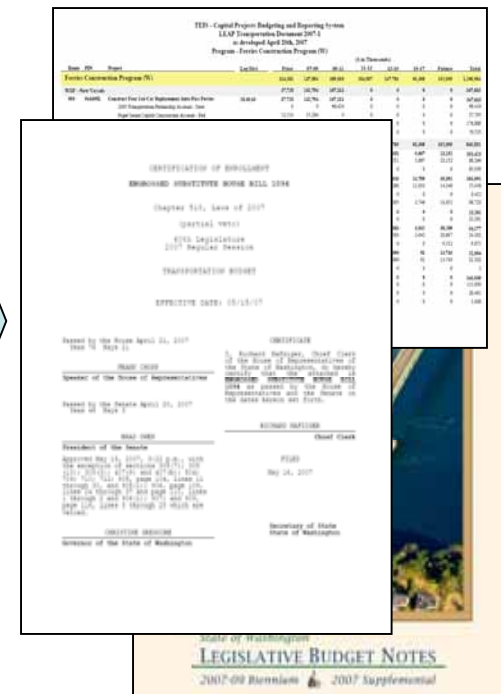
## Policy Planning & Prioritization



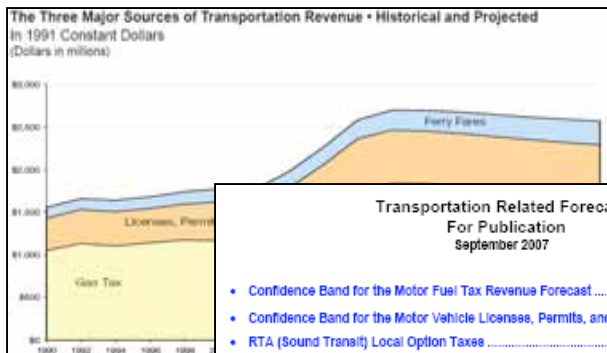
## Project Prioritization & Program Development



## Legislative Budget



## Revenue Forecasting & Financing

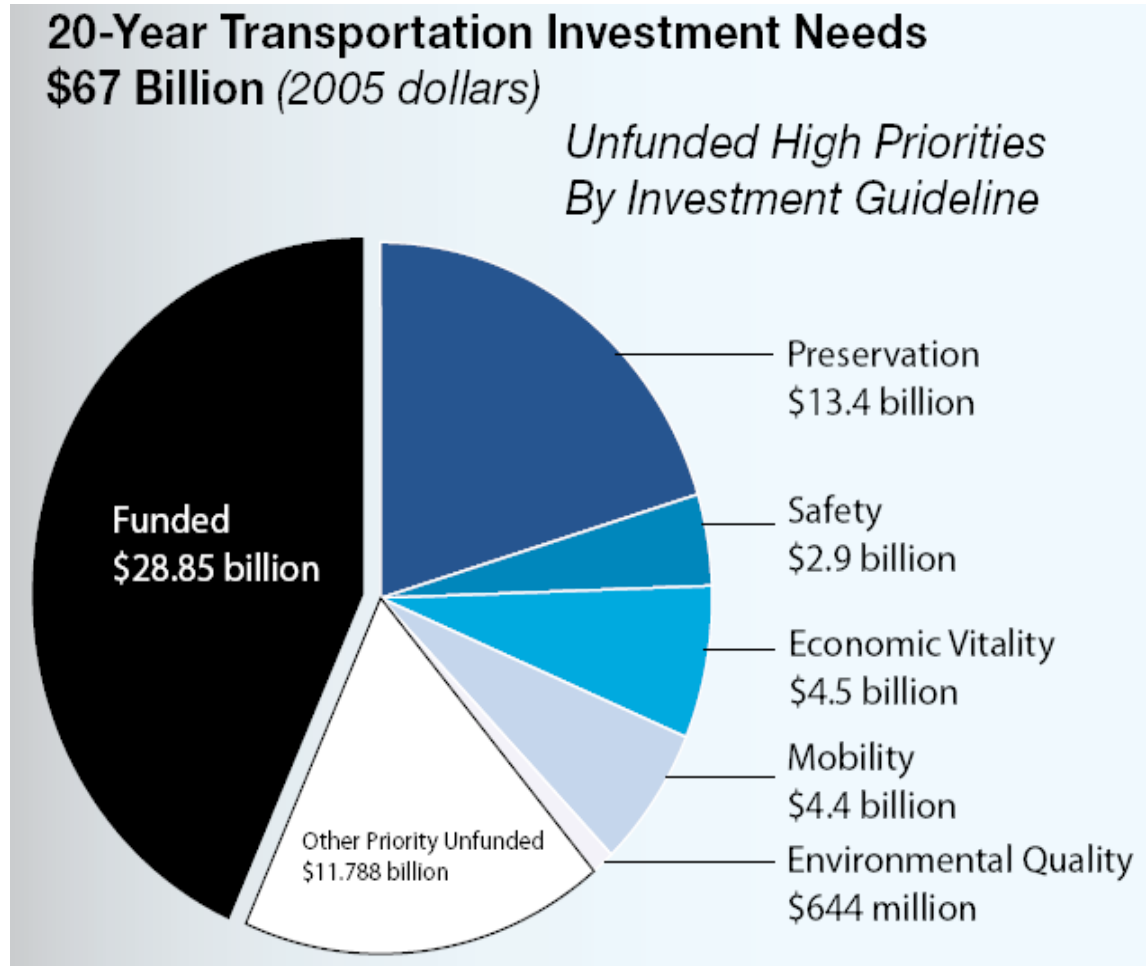


Transportation Related Forecasts  
For Publication  
September 2007

- Confidence Band for the Motor Fuel Tax Revenue Forecast ..... 2
- Confidence Band for the Motor Vehicle Licenses, Permits, and Fees Forecast ..... 5
- RTA (Sound Transit) Local Option Taxes ..... 8
- Transit Retail Sales Tax Forecast ..... 10
- Forecast of Fuel, Vehicles, and Related Data ..... 13

# Policy Planning & Prioritization

## Washington Transportation Plan



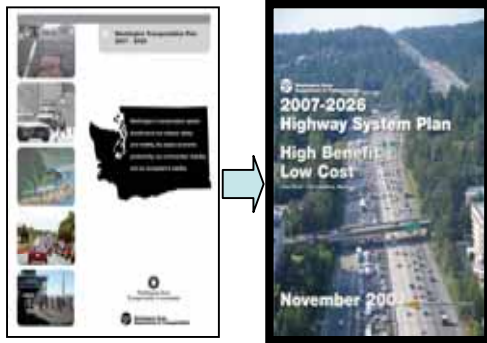
# Transportation Policy Goals

Prioritized Investment Guidelines - *RCW 47.04.280*

- Preservation: to maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.
- Safety: to provide for and improve the safety and security of transportation customers and the transportation system.
- Mobility: to improve the predictable movement of goods and people throughout Washington state.
- Environment: to enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.
- Stewardship: to continuously improve the quality, effectiveness, and efficiency of the transportation system.

# Policy Planning & Prioritization

## Highway System Plan Strategies



# Highway System Plan

Investment Considerations – *RCW 47.06.050 & 47.05.010*

- Preservation Objectives
  - Structural: identify deficiencies based on analysis of current and projected deterioration.
  - Pavement: lowest life cycle cost methodologies.
- Improvement Objectives
  - Operational/Capacity: assess strategies to enhance efficiency before recommending system expansion.
  - Deficiencies: assess based on rational selection according to factual need and an evaluation of life cycle costs and benefits that can be carried out within available revenue.

# Steps in Developing and Delivering a Prioritized Program

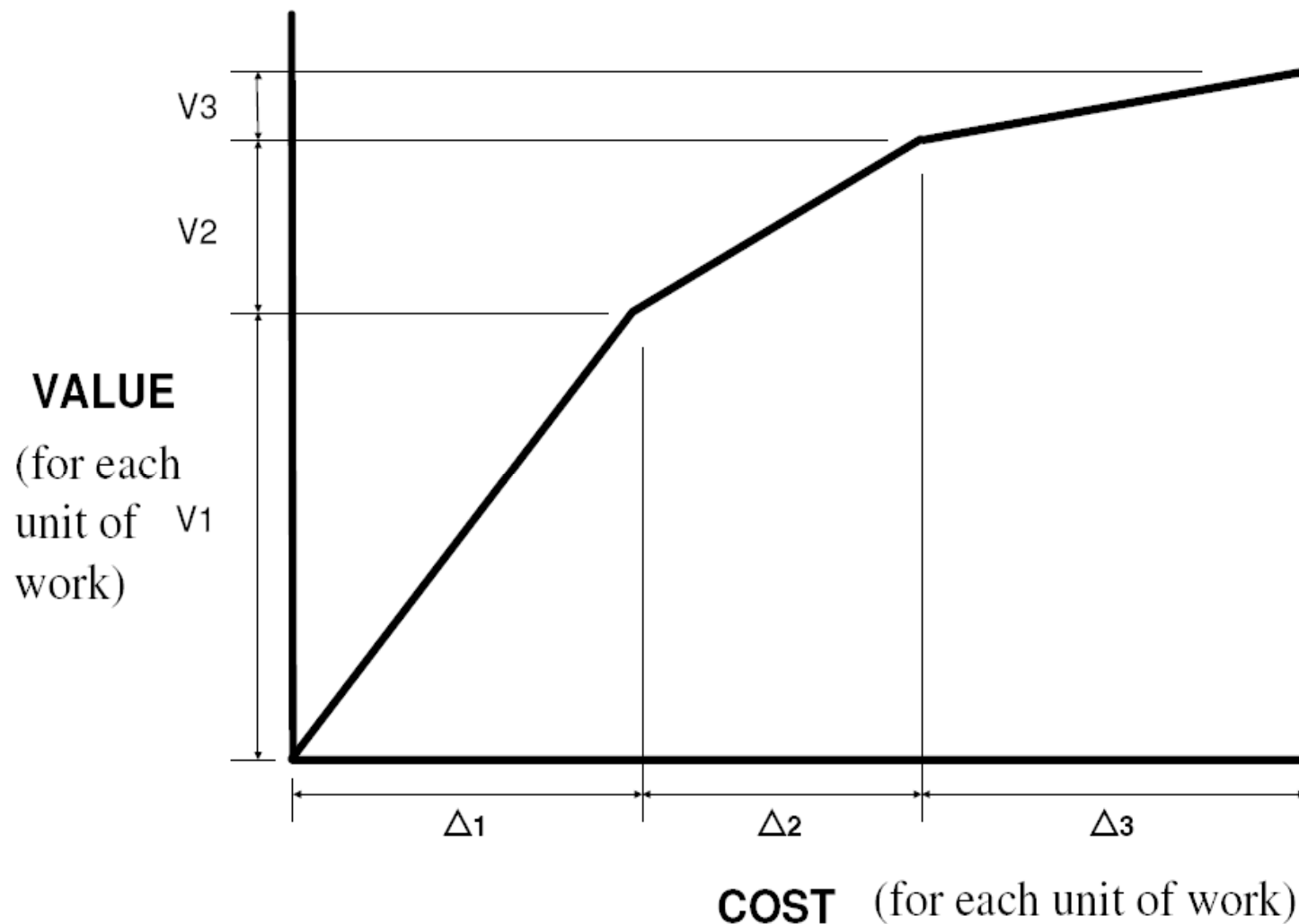
- Establish a prioritization methodology.
  - Focus on anticipated change in performance.
- Select appropriate design level for scoping.
- Develop prioritized lists for programming.
- Submit recommendations for funding.
- Deliver program based on regular review of and update to priorities.

# Prioritization Steps in Identifying Projects for Programming

- Rank needs.
- Establish level of development.
- Scope project.
- Determine change in performance.
- Relate change (value) to cost.
- Prioritize based on change (value) / cost.



# Obtaining the Greatest Value per Dollar Invested



# Highway Planning & Budget Structure

- Operating Programs
  - Maintenance
  - Traffic Operations
- Capital Programs
  - Traffic Operations
  - Preservation
  - Improvement

# Purpose of the Program Structure

- Link each program/category to an approach in Washington Transportation Plan and Highway System Plan.
- Allow investment decision making and trade-off discussion to occur at higher level.
- Group investments addressing similar needs to be grouped for management purposes.

# Highway Preservation

## Program Structure

- Pavement Preservation
  - Black & white pavements.
- Bridge Preservation
  - Preservation (rehabilitation, repair, replacement, and scour) & catastrophic reduction.
- Highway Facilities & Other Features
  - Drainage, electrical, unstable slopes, weigh stations, rest areas.

# Pavement Preservation

## Prioritization Strategies

- Priority: lowest life cycle cost.
- Analysis: cost evaluated on an annual basis
  - Order of implementing: chip seal, asphalt (due), asphalt (past due), concrete.
- Emerging Issue: concrete life.

# Bridge Preservation

## Prioritization Strategies

- Priority: asset condition.
- Analysis: identify deficiencies based on analysis of current and projected deterioration.
  - Order of Implementing:
    - Repair.
    - Prevention Strategies: bridge deck protective overlays, painting, scour prevention, seismic retrofit.
    - Rehabilitation & replacement.

# Highway Facilities & Other Features

## Prioritization Strategies

- Priority: asset condition.
- Unstable Slopes: address the highest risk locations based on 2006 report.
- Major Drainage: inventory of locations and condition assessment currently underway.
- Major Electrical: address the highest priorities based on the 2008 inventory.
- Weigh Stations: evaluate new strategies to meet regulatory requirements without investing in new facilities.
- Rest Areas: Continue lowest life cycle cost preservation of structures and pavements.

# Highway Improvement

## Program Structure

- Safety improvements:
  - Collision reduction & prevention
- Environmental retrofit improvements:
  - Stormwater, chronic deficiencies, fish barriers, noise reduction, habitat connectivity.
- Mobility improvements.
- Economic initiatives.



# Safety Improvements

## Prioritization Strategies

- Priority: eliminate deficiencies based on factual analysis and estimated reduction per dollar spent.
- Collision Reduction: known accident locations using collision data analysis.
- Collision Prevention: potential problem locations based on roadway conditions with limited collision history:
  - identified through risk modeling based on corridor collision data and research.
- Bike-Ped: analysis of incident history with consideration to high risk locations.

# Environmental Retrofit

## Prioritization Strategies

- Priority: cost effective solutions for system locations inventoried.
- Stormwater: amount of untreated water entering lakes, rivers, and streams.
- Chronic Deficiencies: amount of maintenance required and fish habitat impacted.
- Fish Barriers: type of fish and length of habitat opened up.
- Noise Reduction: number of receptors impacted
- Habitat Connectivity: emerging issue.

# Mobility Improvements

## Prioritization Strategies

- Priority: eliminate congestion deficiencies based on factual analysis and estimated reduction per dollar spent.
- Analysis: developing a tool that identifies congested locations, duration of congestion, and length of back-ups.
- Solutions: low cost strategies (Moving Washington) that have the greatest reduction in delay for the dollar spent:
  - Consider: collision reduction, environmental improvements, freight movement, economic growth.

# Economic Initiatives

## Prioritization Strategies

- Priority: job creation and community development.
  - Locations with no congestion or safety deficiencies.
- Analysis: working to develop criteria and tool to evaluate and prioritize based on various levels of investment.

# Questions?

For more information regarding  
the WSDOT Highway Project Prioritization, contact:

Pat Morin, Systems Analysis & Priority Development Manager  
(360) 705-7141 or [morinp@wsdot.wa.gov](mailto:morinp@wsdot.wa.gov)

or

Jay Alexander, Program Development Office Manager (acting)  
(360) 705-7121 or [alexanja@wsdot.wa.gov](mailto:alexanja@wsdot.wa.gov)